

FREEMAN AND CUSTIS' ACCOUNT OF THE RED RIVER
EXPEDITION OF 1806, AN OVERLOOKED PUBLICATION
OF BOTANICAL INTEREST

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MY ATTENTION WAS DRAWN some twenty-five years ago by the late Dr. John Swanton, of the United States Bureau of American Ethnology, to a small book in the library of the U. S. Geological Survey that was of interest to him for its information on certain Indian tribes. This anonymous book is entitled "An Account of the Red River in Louisiana, drawn up from the returns of Messrs. Freeman and Custis, to the War Office of the United States, who explored the same in the year 1806."¹

Swanton mentioned this book and quoted extensively from it, in connection with the Caddo Indians, in his book "Source Materials for the History and Ethnology of the Caddo Indians" (U. S. Bur. Am. Ethnol. Bull. 132. 1942). The work is mentioned briefly and with scant regard by William H. Goetzmann in his fascinating and wonderfully documented book "Army Exploration in the American West 1803-1863" on pages 34-36 (Yale University Press). This Freeman and Custis work is of historical and ethnological interest, but in addition it contains lists of plants (including some novelties), animals, birds, insects, amphibians, and so forth, and the plants, at least, have been completely overlooked by subsequent botanists up until the present day. There is, for instance, no mention of this publication at all in Mrs. Susan Delano McKelvey's monumental book "Botanical Exploration of the Trans-Mississippi West, 1790-1850." The botanical part of this narrative is quite interesting, being the first published information concerning the native plants of Louisiana after the Louisiana Purchase, and it includes perhaps the first mention of some important plants, such as the Osage Orange.

HISTORICAL ACCOUNT OF THE EXPEDITION
AND THE PUBLICATION

The historical background of the expedition to the Red River is briefly as follows: While the English were colonizing the eastern seaboard of the United States, the French were in control of Canada and Louisiana, which included all the territory on the western side of the Mississippi River, including the present states of Louisiana, Arkansas, Kansas, Missouri, Nebraska, Iowa, North and South Dakota, Minnesota, and Montana. At

¹ Octavo, 63 pp., 2 folded tables. Without place of publication, without date. The Library of Congress card and Swanton give the date as 1806, but Goetzmann gives it as 1807, and that the latter is probably correct is indicated below (see p. 437).

the end of the French and Indian War, in which the French were disastrously defeated, all of Louisiana was ceded to Spain by the Treaty of Paris, February 10, 1783. However, for reasons best known to Spain and Napoleon, Louisiana was ceded back to France by the secret Treaty of San Ildefonso in 1800. Alarmed by this evidently not so secret treaty, President Jefferson sent James Monroe to Paris to negotiate for the sale of New Orleans, which was needed as a seaport by the settlers in Tennessee, Kentucky, and elsewhere in the Middle West. Surprisingly, Napoleon, at the time in firm control of France as First Consul of the Republic, agreed not only to sell New Orleans but all of Louisiana for \$15,000,000, surely the greatest bargain in history since the sale of Manhattan Island to the Dutch by the Indians. The sale was agreed to with alacrity by Jefferson and ratified by the United States Senate in 1803.

Jefferson's first concern was to ascertain the boundaries of the new territory. An expedition to explore the upper part of the Purchase was immediately organized, the Lewis and Clark Expedition of 1803-1806, which was brilliantly successful and justly acclaimed. The Red River, a tributary of the Mississippi River running northwest from about the middle of the present state of Louisiana, was supposed to be the southwestern boundary between Louisiana and the Spanish possessions in Texas and the west. Two expeditions were authorized. One, authorized by Henry Dearborn, Secretary of War, March 30, 1804, was for an expedition under the command of William Dunbar and George Hunter.² This expedition got under way October 16, 1804, from St. Catherine's Landing, on the Mississippi River below Natchez. It proceeded up the Red River only about 26 miles, and then turned north on the tributary Black River (now the Ouachita River) and went up into present-day Arkansas. Hunter returned to St. Catherine's Landing on January 31, 1805. The journal of this expedition was in family hands until very recently, but it has now been published as "The Western Journals of Dr. George Hunter, 1796-1805" edited by John Francis McDermott, in the Transactions of the American Philosophical Society (new series, vol. 53, part 4, 1963).

At almost the same time as the Dunbar and Hunter expedition, another expedition to explore the Red River was authorized April 14, 1804, under the command of Thomas Freeman, an expedition doomed to failure and consequently known today only to historians. The expedition was delayed for almost two years by the opposition of the Spanish and also by the Osage Indians, but it finally started April 19, 1806, perhaps using some of the supplies left behind for its use by Hunter after his return the previous year. The party consisted of "Mr. Thomas Freeman, Surveyor,

² Dunbar's account of this expedition has been published from a manuscript in the library of the American Philosophical Society, "Journal of a Voyage Commencing at St. Catherine's landing, on the East bank of the Mississippi, proceeding downwards to the mouth of the Red river, and from thence ascending that river, the Black river and the Washita river as high as the Hot-Springs in the proximity of the last mentioned river," in "Documents relating to the Purchase and Exploration of Louisiana." Houghton, Mifflin & Company, 1-189. 1904.

who was furnished with the requisite instruments, for determining geographical positions by astronomical observations; Dr. Peter Custis, whose attention was directed to botany, and natural history; Captain Sparks, and Lieutenant Humphreys, two non-commissioned officers, seventeen private soldiers, and a black servant." The connection, if any, between the Dunbar-Hunter Expedition and the Freeman-Custis Expedition is not at all clear. In Jefferson's letters to Dunbar, quoted by McDermott, there is no mention of Thomas Freeman or Peter Custis.

The party entered the Red River from the Mississippi May 3, expecting to be able to ascend in their boats to the country of the Pawnee Indians. Their orders were³ to purchase horses from these Indians and to ascend to the top of the mountains, the distance being supposed to be about 300 miles. It is evident that the distance was vastly underestimated. As a matter of fact, the real source of the Red River was unknown and unexplored until the famous Marcy Expedition of 1852, almost 50 years later.⁴

The expedition proceeded upstream through country inhabited by friendly Indians until July 28, when a point was reached that was held by a force of perhaps 300 Spanish cavalymen under the command of Captain Don Francisco Viana. It is said that by his strategy and diplomacy Mr. Freeman saved the party from destruction. However, from the published account it seems that the Spanish commander was civil and not unfriendly but firm in his purpose not to allow the expedition to proceed. Since the Americans were far outnumbered, there was no alternative but to turn back, which the party did on July 30, arriving back in Natchitoches on August 23. Since the expedition did not reach its destination it was evidently considered a failure, even though it did provide some information on the course of the river, the countryside, the climate, the Indian inhabitants, and the flora and fauna.

The farthest point reached by the expedition, that where it was stopped by the Spanish, has been a matter of conjecture. Sabin⁵ summarizes the information as follows:

"Map makers and later writers are far from agreement as to where on the Red River Freeman was halted by Captain Viana. Thwaites, editor of the James-Long expedition (*Early Western Travels*, Vol. XVIII) is clearly wrong in stating that the halt occurred where the Little River joins the Red. This is fifteen miles or so east of the Texas-Louisiana north-south boundary and thirty miles or so east of the western boundary of Arkansas.⁶ The long note in Wagner-Camp to the 1810 Pike is delightfully indefinite on this point, as is Thomas M. Marshall

³ The original orders are in the manuscript division of the Library of Congress.

⁴ Marcy, Randolph B. *Exploration of the Red River of Louisiana in the year 1852*, pp. i-xv, 1-286. 1854. *Botany of the Marcy Expedition by John Torrey*, *op. cit.* pp. 245-272, *pl. I-XX*. The botanist-collector of the Marcy Expedition was Dr. G. C. Shumard.

⁵ Sabin, Joseph. *Bibliotheca Americana, A dictionary of books relating to America from its discovery to the present time*, 7: 15. 1875.

⁶ Sabin is right; it is obvious from the published account that the expedition proceeded much farther than this point.

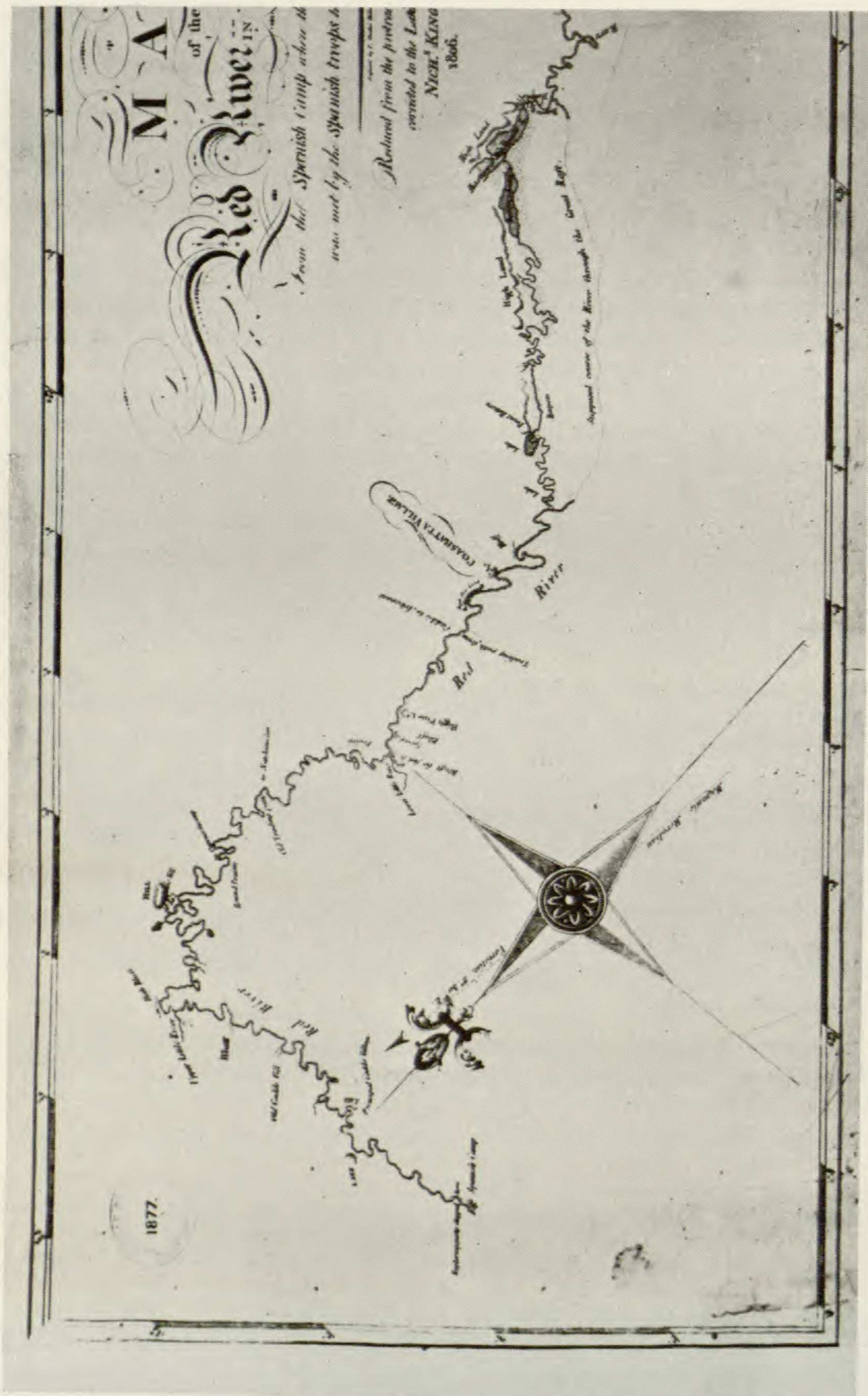


FIGURE 1. Photograph of left half of the original "Map of the Red River in Louisiana" of Freeman and Custis.

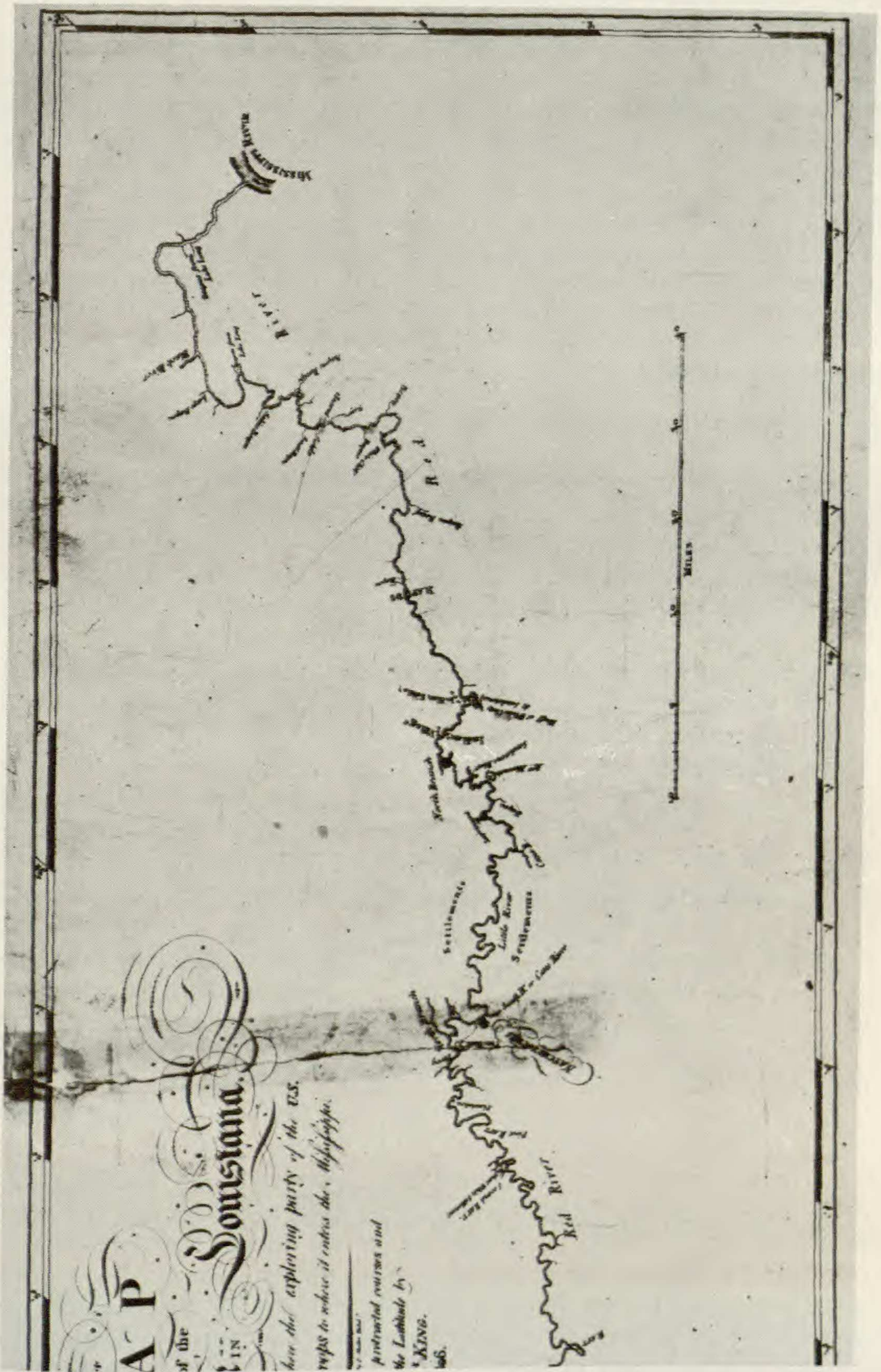


FIGURE 2. Photograph of right half of the original "Map of the Red River in Louisiana" of Freeman and Custis.

in his *History of the Western Boundary of the Louisiana Purchase*. My guess is that the Freeman party was halted near the little Texas village of River View on the Red River about thirty miles or so west of the north-south Texas-Louisiana boundary. This may be the 'handsome bluff' mentioned in the Freeman account. This would fairly well agree with the location for the halt given in the famous Robinson Map of Mexico, Louisiana. . . Philadelphia, 1819 (No. 1073),⁷ which places it twenty-five miles or so west of the present Texas-Louisiana line. The map in the Philadelphia, 1810, Pike (No. 1047), 'The First Part of Capt'n. Pike's Chart of the Internal Part of Louisiana' is invaluable for following the route of the Freeman expedition up the Red River, but its legend for 'the exploring Party stopped here' seems to be too far west by at least a degree of longitude; and Map No. 55, showing Arkansas Territory, in P. M. G. Van der Maelen's *Atlas Universel*, Bruxelles, 1827 (No. 1095), is almost certainly in error in the legend it has at the confluence in Oklahoma of the Red River and Boggy Creek (about 80 miles west of the Texas-Louisiana line), 'La R. rouge a été reconnue jusqu'ici par Th. Freeman.' "

Sabin and the writers mentioned by Sabin seem to have been unaware that the original map of Freeman and Custis was in existence. It is still preserved in the National Archives (Map M33-1); it is reproduced in this paper as FIGURES 1 and 2. This map shows that Sabin was right, that the stop was at or near the present River View, Red River County, Texas, a point very near the Texas-Oklahoma-Arkansas meeting point. The expedition was, therefore, mostly confined to present-day Louisiana, but did traverse the southwestern part of Arkansas, and a short distance along the boundary between Texas and Oklahoma.

The published account of the Red River expedition is a small book of 63 pages, probably always very rare. Copies are in the Library of Congress; U. S. Geological Survey; Bancroft Library, University of California, Berkeley; Howard-Tilton Memorial Library, Tulane University; Boston Athenaeum; Clements Library, University of Michigan; Harvard University; Streeter's Collection, Morristown, New Jersey; and the Maryland Historical Society, Baltimore. The book does not have any place or date of publication. The place was undoubtedly Washington, D.C., as given on the Library of Congress card, which gives the date as "1806?", and Swanton (U. S. Bur. Am. Ethnol. Bull. 132. 1942) gives the date as 1806 without a question mark. However, Custis' final report is dated at Fort Adams, October 1, 1806. For this report to reach Washington (probably requiring several weeks overland by stage coach), and for it to be combined with the previous report and with Freeman's reports, would seem to require too much time to have the account published before the end of 1806. I am indebted to my friend, Mr. A. DeWeese, chief of the Information Desk, New York Public Library, for looking into the matter. He has found a reference establishing the probable date as 1807, which is the date to be expected. Item no. 1040 in Thomas W. Streeter's *Bibliography of Texas* is devoted to this book of Freeman and Custis, and the third paragraph discusses the date of publication as follows:

⁷ These numbers refer to the appropriate entries in Sabin's *Bibliotheca*.

"The 1807 date given here to the Freeman pamphlet was suggested by the late Wilberforce Eames, on what was for me a memorable occasion when, not long before his death, Mr. Eames, accompanied by Lathrop Harper, spent the day with me in Morristown. He pointed out that as the copies of the Freeman pamphlet and the undated *Account of a Voyage up the Mississippi River . . . in the Years 1805 and 1806. Compiled from Mr. Pike's Journal* had come to the Library of Congress and to the Bancroft Library sewn together and as in his copy of the *Account* there was laid in a letter of presentation signed by General Dearborn, the Secretary of War, and dated, 'War Department, March 9, 1807,' there was a strong presumption that the Freeman pamphlet was published early in 1807. Edwin James in his *Account of An Expedition from Pittsburgh to the Rocky Mountains*, Philadelphia, 1823, says he had access to the Freeman journal, now lost, and at pages 306-314 of Volume III gives an account of the expedition which, in places, supplements the Account entered here. There is an interesting article on Freeman in the *Dictionary of American Biography*. That article gives the place where Freeman was halted as 'near where the present boundaries of Arkansas, Oklahoma and Texas meet.'"

Thomas Freeman, who led the expedition, was born in Ireland⁸ and emigrated to the United States in 1784. On March 25, 1794, he was appointed to survey a part of the newly created District of Columbia, a survey completed June 25, 1795. After planting the stones for the boundary, he commenced the first topographical survey of the District, but resigned July 7, 1796, to accept an appointment as U. S. surveyor to determine the boundary between the United States and Spain, which at that time held Louisiana in control. After the Red River Expedition, he mapped a part of the boundary between Alabama and Tennessee in 1807. In 1811 he was appointed U. S. Surveyor of Public Lands south of Tennessee, a position he held until his sudden death at Huntsville, Alabama, November 8, 1821.

I have been unable to find out anything definitely about the ancestry of Peter Custis, the botanist who accompanied the expedition, perhaps as a substitute for George Hunter, who, it appears, did not wish to return to the Red River for personal reasons. In spite of its prominence in connection with George Washington and with Robert E. Lee, both of whom had connections through marriage, there is no published genealogy of the Custis family. Peter Custis was the son of one Robinson Custis, of Accomac County, Virginia, in whose will of 1797, he was left a part of the estate for "a Latin education and to be brought up in one of the learned professions."⁹ Peter Custis is also mentioned in R. T. Whitelaw's "Virginia Eastern Shore,"¹⁰ where he is said to be a doctor. He did receive the degree M.D. from the University of Pennsylvania in 1807, that is, after he returned from the Red River Expedition. Since he is mentioned in the published account of the expedition as "Dr. Peter Custis" this may indicate that he obtained the degree early in 1807 before

⁸ *Dictionary of American Biography*. 7: 13. 1931.

⁹ This information was kindly supplied by a member of the staff of the New York Public Library who has Custis family connections.

¹⁰ Vol. 2, p. 968.

the account was published or that he was given the title "Dr." in anticipation of his receiving the degree shortly.

The other two leaders of the expedition are not of especial interest in this connection. Richard Sparks was appointed First Lieutenant of the U. S. Infantry in 1791, a Captain in 1792, a Major in 1806 (presumably after his return from the Red River Expedition), a Lt. Colonel in 1807, and a Colonel in 1812. He died in 1815. Enoch Humphreys was appointed Lieutenant, First Artillery and Engineers in 1801, a Captain in 1809, and later a Major. He died in 1825.

Although the Account of the Red River is anonymous, it must be attributed to Freeman and Custis, as it is by the Library of Congress, by Streeter in the work mentioned above, and by Sabin.¹¹ The work was compiled from one or more reports by Freeman to the Secretary of War and from two reports by Custis, obviously by someone fairly incompetent because of the numerous misspelled words, inconsistencies in punctuation, and especially by the many misspelled scientific names. The original manuscript reports by Custis are still in existence, in the National Archives in Washington, available on microfilm.¹² Custis' handwriting is exceptionally clear but even so the published work has numerous errors of transcription. All the data regarding the natural history of the region and the meteorological data come from Custis, the general remarks regarding the progress of the expedition and the encounter with the Spanish evidently come from a report by Freeman, the manuscript of which is apparently lost. Dr. Custis' second letter, enclosing the final lists, follows.

"Fort Adams

Oct. 1, 1806

"Sir:

"Inclosed I have the honor to forward my last communications, consisting of Lists of such vegetables & animals as you have not already had an account of, together with one of all the trees of Red River & my meteorological observations. — I have to lament that a more complete opportunity had not occurred, that I might have been enabled the better to perform the duties allotted me, but it is a thing well known that a person subject to the movements of another has little, or I might add, no time to make botanical excursions. — With respect to the country it will be unnecessary to say anything, as it is similar to that of which you have before had accounts. I could however report what I mentioned in my last letter that in point of beauty, fertility and salubrity there is not its equal in America, nay in the world. — The water of Red River above Coashatta Village is so strongly impregnated with salt as to render it unfit to drink. When this water is low we find the sand beaches rendered white with salt.

"I have to return my most sincere thanks for the appointment with which you have honored me, & to regret the failure of the expedition. — Permit me, Sir, to tender you my best wishes.

Yrs.

Peter Custis

"The Honble.

Henry Dearborn

Secretary of War."

¹¹ Sabin, *op. cit.* 16.

¹² Letters Received by the Secretary of War 1806, M221, Roll 4, C140, C207.

Perhaps the very first list of the trees of the lower Mississippi River region was that given in *The Journal of Andrew Ellicott* (first edition, Philadelphia, 1803, republished by Quadrangle Books, Inc., Chicago, Illinois, 1962). Ellicott's Journal is concerned mostly with political and military matters, but on pages 285 to 289 of the republished edition he gives a list of some of the common trees and other plants. Although he professes himself an indifferent botanist it appears that he did know a good deal, and many of his names are more correct than those supplied later by Custis. Although Ellicott was never on the Red River, many of the same plants occur along the banks of the Mississippi also, and, therefore, it is not surprising that Ellicott should mention many of the same species as those commented on by Custis. There is no indication that Custis ever saw this list of Ellicott; if he had, he might very well have made some changes in his nomenclature.

A list entitled "Common Names of some of the Trees, Plants, Shrubs etc. growing in the Country adjacent to the Ouachita" was prepared by the Dunbar and Hunter Expedition of 1804, probably by William Dunbar. This list is in the Hunter Papers in the library of the American Philosophical Society but was never published until by McDermott in *The Western Journals of George Hunter, 1796-1805*, in 1963 (pp. 120, 121). It consists of common names only; the plants listed are in part the same as those listed by Custis, but they can not be at all definitely determined. Another shorter "List of Vegetables (perhaps non-descriptors) from the River Washita" was also prepared, and this also was published by McDermott (pp. 121, 122). This list contains extensive notes on a few plants considered to be of especial interest, among them being the "Bois d'arc" or Osage Orange. There is no reason to believe that Custis saw these lists either.

Peter Custis wrote a letter from Natchitoches, dated June 1, 1806, to his teacher, Benjamin Smith Barton, and signed it "your sincere and ever-devoted Friend and Pupil." This letter contained a brief account of the trip up to that date, and included, of course, a number of the same observations that were published later in the full account. Barton lost no time in publishing this letter, in his "The Philadelphia Medical and Physical Journal, collected and arranged by Benjamin Smith Barton, M. D., Professor of Materia Medica, Natural History, and Botany, in the University of Pennsylvania," vol. 2, part 2, pp. 43-48, Sept. 26, 1806. This is the first published record of the natural history of the expedition, but it also has been completely overlooked. A good many of the trees noted in the later account are also recorded here, including the first mention of *Juglans petiolata* Custis.

Custis presumably did not take along equipment for preparing herbarium specimens which was probably not considered necessary, since this was not primarily a scientific expedition for studying the natural history of the region. Moreover, there would probably not have been room for much equipment in his small boats. His botanical observations

were of course based on living material, but he did manage to collect 26 numbers of herbarium specimens, which he enumerated (see below, p. 455) but did not name. These probably represented species that he could not name from the books at hand, and it may be conjectured that most of them were undescribed at the time.

These herbarium specimens were never formally identified and reported on, apparently. They were given to Custis' teacher, Benjamin Smith Barton who, in 1791, had been appointed the first Professor of Natural History and Botany in the United States, according to Francis W. Pennell (*The Elder Barton — His Plant-Collection and the Mystery of his Floras*, *Bartonia* 9: 17-34, 1926). Among the contents of Barton's herbarium Pennell mentions (*op. cit.* p. 21) "Peter Custis specimens from Virginia and '450 miles up the Red River.'" Frederick Pursh was employed in 1806 and 1807 as a collector by Barton and apparently also as a herbarium assistant, since most of the specimens in the Barton herbarium bear determinations in Pursh's hand. It is likely that he saw and may have identified the Custis Red River collections, and it may be that some of these formed the basis of some records in Pursh's later *Flora Americae Septentrionalis* (1814), which was prepared after Pursh went to England. That the Custis specimens have remained unknown is the result of the general neglect of the Barton Herbarium, which, after Barton's death in 1815, was presented to the American Philosophical Society. It was kept but remained essentially unknown and unused until it was turned over to the Academy of Natural Sciences some 80 years or more later. Of course, the Barton Herbarium is historically and botanically very important because it contains more than 800 of the collections of Frederick Pursh. Since the Custis collections do not even bear generic names, except for three indicated as *Mimosa*, *Lonicera*, and *Polypodium*, and they have not been cited in the botanical literature, they can not be otherwise identified.

As may be seen from a perusal of the lists and my commentaries, which follow, Custis' identifications of the plants observed leave much to be desired, but in extenuation one must consider the circumstances. It is hard for us now to realize the paucity of literature existing on the plants of the southern United States in 1806 and particularly on those of the western part, in Louisiana. Michaux's *Flora Boreali-Americana* had appeared in 1803, but it is evident that Custis had not yet seen it, for he mentions none of Michaux's species. He was familiar with Marshall's *Arbustum Americanum* (1785) and Walter's *Flora Caroliniana* (1788), for Marshall and Walter are mentioned, but it is doubtful that he had these works along on the expedition. Professor Ewan suggests that he was probably also familiar with Bartram's *Travels* and with Thomas Jefferson's *Notes on Virginia*, which is certainly likely, but he would not have had these works along with him either, and they would not have been very helpful in any case. What is certain is that he did have and use Linnaeus' *Systema Vegetabilium*, ed. Murray (either ed. 14, 1784, or ed. 15, 1797,

which are very similar in format and content), because all the names used are found in this work and many of them are not in any American works available at that time.

The identifications came from Linnaeus' *Systema*, a work in which all of the known plants of the world were crammed into one volume. The treatment is the ultimate in condensation, consisting only of diagnoses of from six to ten words, and sometimes a citation or two. All the descriptions of the *Species Plantarum* (ed. 3) are omitted, and also all mention of geographic distribution. I can picture Custis sitting in the open flat boat while it was proceeding up the river at a snail's pace trying to match up his specimens with these brief Linnaean diagnoses, throwing up his hands at the impossibility, and finally tossing a coin as to which name to enter in the list. This explains why he reports from Louisiana so many species known only from Europe, Africa, Asia, Australia, and tropical America. I had much the same experience when I was a student at the University of California. Dr. Harvey M. Hall asked Tom Howell and me to identify the plants for a local wildflower show in Berkeley. We were unexpectedly deluged with specimens, many not at all local but from the Sierras and distant Coast Ranges, and many belonging to difficult genera like *Lupinus*, *Gilia*, *Phacelia*, and *Arctostaphylos*. As the time for the opening of the show grew close we, in desperation, just put down species names almost at random, in order for the plants to have some designation for the public, confident that no one was likely to question the names, except perhaps our teacher, Professor Jepson, who was unlikely to make an appearance. Similarly, Custis must have felt that in order to uphold his position as a botanist and to earn his pay he must supply names for the plants. He could be fairly confident that no one in the office of the Secretary of War was going to question them, and he was right. It is only now after 150 years that the names are coming to light. It is well for botanical nomenclature that he was chary of assigning new Latin names, because many of the plants that he saw really were undescribed species, which is why he could not find their diagnoses in Linnaeus' work. He actually created only three new botanical names, which are discussed below, and these all prove to be synonyms at the present time.

The next list of plants of the Red River Valley was not published until Torrey's list of 1854, in the Marcy report mentioned previously. A comparison with Torrey's list gives some clues to the identity of the plants recorded by Custis.

ACKNOWLEDGMENTS

This account, first written some twenty years ago and recently revised, has been read by my colleagues Drs. Mason E. Hale, David B. Lellinger, Harold Robinson, Velva Rudd, Lyman B. Smith, and William Stern, to whom I am grateful for many valuable suggestions. I am especially grateful to Professor Joseph Ewan of Tulane University, who, from his

vast knowledge of botanical history, was able to draw my attention to several references I would otherwise have overlooked; and to Dr. Clair A. Brown, of Louisiana State University, who was able, from his wide knowledge of the native flora of Louisiana, to suggest the identification of several of the plants mentioned that were doubtful to me.

EXTRACTS FROM THE NARRATIVE

Some extracts from the narrative in which the vegetation is particularly mentioned are given below, with my commentaries in footnotes, and following them are the complete plant lists, again with my commentaries. In the quoted parts the old spellings (and misspellings) of the original are reproduced.

"Left Fort Adams, on the Mississippi, April 19, 1806 . . . (p. 5) For two or three miles [from the confluence with the Mississippi] this river [the Red River] is beautifully bordered with willow trees,¹³ which extend back from its margin nearly half a mile to the second rise in the land or bank, about six feet higher than that which borders the river. The trees of this second bank or plane are various. The Pecan is the most abundant; this is a species of *Juglans*, which bears the much admired Illinois nut. In its habits the Pecan is so very different from the *Juglans alba*,¹⁴ as not to be mistaken for it, by the most (p. 6) careless, yet the only difference which can be pointed out, is in the leaf: both have pinnate leaves; the *Alba* has an odd leaflet sessile, the Pecan has odd leaflet petiolate. *Juglans petiolata*¹⁵ would be an appropriate name for this species. The cotton tree, which of late has excited so much attention, is found here; although considered a populus, and by some termed Lombardy poplar, there is no other resemblance than the leaf.¹⁶

"The other trees are oaks, (*Quercus rubra*, *alba* and *phellos*.)¹⁷ Persimmon (*Diosphyros Virginiana*),¹⁸ Hagberry (*Prunus padus*),¹⁹ Syca-

¹³ *Salix nigra* Marsh. and *S. interior* Rowlee.

¹⁴ Presumably the Mockernut Hickory, *Carya tomentosa* Nutt., which should perhaps be known as *C. alba* (L.) Nutt. It is doubtful if *Juglans alba* L. should be rejected as a *nomen ambiguum*, as it was by Rehder, who has been followed more recently by Little.

¹⁵ *Juglans petiolata* Custis, a name overlooked in the botanical literature, was validly published in the preceding year in Phila. Med. & Physic. Jour. 2(2): 45. Sept. 25, 1806. Fortunately, no change in the accepted name of the species need be made, for the pecan had been described, unknown to Custis, three times previously — as *Juglans pecan* Marsh. (1785), *J. illinoensis* Wangenh. (1787), and *J. oliviformis* Michx. (1803). The name currently accepted as correct is *Carya illinoensis* (Wangenh.) K. Koch.

¹⁶ It is the Eastern Cottonwood, *Populus deltoides* Bartr., common and of large size on the river-banks in the area traversed.

¹⁷ *Quercus phellos* L., the distinctive Willow Oak, was surely identified correctly, but *Q. alba* L. and *Q. rubra* L. were probably applied to any of the White and Red Oaks respectively, most of which had not been distinguished in the time of Custis.

¹⁸ Properly *Diospyros*.

¹⁹ *Prunus padus* L. is the European Bird Cherry. Presumably the plant referred

more, or the American Plane tree (*Plantanus Occidentalis*)²⁰ and the *Crataegus aria*.²¹ After passing three miles up the river, no trees but the willow and Pecan are seen from it, until approaching the Black River, where the Cyprus (*Cupressus disticha*)²² is noticed. The Pecan is covered with Mistleto.

"The bank of Black river on the right side is high, the soil very rich and light, and occasionally flooded, and besides all the trees above enumerated, except the Sycamore and Cotton trees, which disappear shortly after entering the river, it produces the Red Gum (*Liquid amber styraciflua*)²³ of a very large size, and the Ironwood (*Lyder axylon mite.*)²⁴ . . . (p. 7) The banks of the river are from 18 to 25 feet higher than the water at this season, and the land generally declines from them, for about one fourth of a mile to Cypress swamp.

"At the Avoyell's settlement, about 35 miles higher than Black river, the *Plantanus Occidentalis*, and Cotton trees begin to make their appearance, with the *Cornus Sericea*²⁵ and Cypress; the Pecan and Persimmon are most abundant, the first of which generally grows to the height of 100 feet. Nine miles above the settlement is a beautiful bluff, nearly a mile in length, and fifty feet in height, formed of a reddish yellow sandy clay; here is first seen the *Quercus Nigra* or Black Oak, the *Myrica Cerifera* or Candle berry bush, and Maple (*Acer Pennsylvanicum.*)²⁶

"Six miles above this bluff, a stratum of large trees and leaves, thirty feet below the surface of the ground, and covered by 10 or 12 feet of hard marle or clay, was exposed to view in the bank of the river. The Pine (*Pinus Sylvestris,*)²⁷ Dogwood (*Cornus Florida,*) Sassafras (*Laurus Sassafras,*)²⁸ Chesnut Oak (*Quercus Esculus,*)²⁹ Holly (*Ilex aqui-*

to is the Black Cherry, *Prunus serotina* Ehrh., which was formerly called hagberry or hackberry.

²⁰ In mss. correctly *Platanus*.

²¹ *Crataegus aria* L. is a European species. There are several native species of *Crataegus* along the Red River, and the one referred to can not be determined.

²² In mss. correctly cypress. *Cupressus disticha* is now correctly *Taxodium distichum* (L.) L. C. Rich.

²³ In mss. correctly *Liquidambar*.

²⁴ A compiler's error. In mss. correctly *Sideroxylon*; however, this was a misidentification by Custis, for *S. mite* L. is an African plant, and the genus *Sideroxylon* does not occur at all in Louisiana. Probably the plant so named was *Bumelia lanuginosa* (Michx.) Pers. or *B. smallii* Clark.

²⁵ The plant referred to is probably the Rough Dogwood, *Cornus drummondii* C. A. Meyer, because *C. sericea* L. does not occur in Louisiana. The latter, as typified by Fosberg (Bull. Torrey Bot. Club 69: 583-589. 1942) and Dandy (Watsonia 4: 47. 1957) is the proper name for the northern red osier usually known as *C. stolonifera* Michaux.

²⁶ The Striped Maple, *Acer pensylvanicum* L., does not occur in the region explored; very likely the plant so identified was Drummond's Red Maple, *Acer rubrum* var. *drummondii* (Hook. & Arn.) Sargent, which is common in the area.

²⁷ *Pinus sylvestris* L., the Scotch Pine, is a European species; presumably the plant so identified was the Shortleaf Pine, *P. echinata* Mill., which is common along the Red River.

²⁸ Now properly *Sassafras albidum* (Nutt.) Nees.

²⁹ This is a misidentification, for *Q. esculus* L. is a European species, reported to be

folium,)³⁰ Hickory (*Juglans alba*,) Spice Wood (*Laurus Benzoin*,)³¹ and Buckeye (*Esculus parviflora* of Walter,)³² make their appearance at this place; the Benzoin being the only undergrowth to be found for a considerable extent.

"A shrub is found in great abundance every (p. 8) where along the river, growing to a height of from 10 to 20 feet, bearing a drupe resembling the Olive, but not so large, which, when ripe, is of a reddish purple color. The season of its flowering being passed, the species could not be ascertained, but Dr. Custis supposes it to be the *Elaegus* of Linnaeus. The putamen is of a woody fibrous texture, easily separated by the fingers; the Peduncles are rameous, and sub-opposite, each bearing from 10 to 15 drupes, the leaves elliptic.³³ . . . The banks of the river here [above the second fall] are high; the land very rich, somewhat broken and well adapted to the growth of cotton, and not (p. 9) subject to be overflowed. Most of the Red river lands are either of a clayey or marley soil, apparently not desirable for cultivation; the fact however is otherwise; they are found to be more productive than the best Mississippi lands, and the cotton raised on them always commands a higher price than that of the Mississippi. At the foot of the falls, and on the left bank of the river, is Rapide Court House;³⁴ and its vicinity is a considerable settlement. Here the Chequapin (*Fagus pumila*)³⁵ grows to a very large size; some of them 30 feet high and seven in diameter. The *Myrica Cerifera* is very abundant. . . .

"Twenty-three miles higher up the river than the falls, on a bluff about 50 feet higher than the surface of the water, is an Indian village, called the Appalaches. . . . A few miles above this village, on the left hand, there is a sand stone rock, which projects into the river. . . . (p. 10) here the Tooth Ache tree (*Zanthoxylum Clava Hercules*)³⁶ is first met with, and a little higher the Prickley Ash (*Zanthoxylum fraxinifolium*).³⁷ Almost im-

a synonym of *Q. cerris* L. The commonest Chestnut Oak of the Louisiana region is the Swamp Chestnut Oak, *Q. michauxii* Nutt.

³⁰ *Ilex aquifolium* L., the English Holly, is a European species; the plant referred to is certainly the American Holly, *I. opaca* Aiton.

³¹ Now generally *Lindera benzoin* (L.) Blume.

³² *Aesculus parviflora* Walt. is a plant confined to the southeastern seaboard; the only Buckeye in the region under consideration is *A. pavia* L. In flower this species is quite distinct from the true *A. parviflora* Walt.

³³ Properly *Elaeagnus*, but this was a poor guess, for this genus does not occur in the Red River Valley, at least not in the lower region where Custis was observing. The description of the branched, opposite peduncles and olive-like fruits indicate that the plants observed were the Swamp Privet, *Forestiera acuminata* (Michx.) Poir., an identification suggested by Dr. Clair A. Brown.

³⁴ The small town of Rapide is still in existence.

³⁵ The Chinquapin is now properly *Castanea pumila* Mill.

³⁶ In mss. correctly *Zanthoxylum clava herculis*.

³⁷ *Zanthoxylum fraxinifolium* Marshall (non Walter) is considered a synonym of the common Prickly Ash, *Z. americanum* Mill.; the occurrence of this species in the Red River region is doubtful, for it is slightly outside the present known range.

mediately above these Indian villages, Red River divides into two branches; that to the right is about one third of the whole width of the river, retains the name of Red river, but is impassable, on account of the rafts of lumber which are lodged in it. [The clearing of this so-called "Great Raft" was begun in 1837 by Captain Shreve but was not finished until after the Civil War.] It separates from the other branch of the river, called Old river or Cane river . . . (from the *Arundo donax*³⁸ with which its banks abound) . . . (p. 11) The banks of Little river [a branch of Cane River] are in many places low, not more than eight feet high, but the water does not flow over them; the current in the river is very rapid. The timber is like what has been described, with the addition of Ash and Elm (*Fraxinus*, and *Ulmus Americana*,) which are most abundant. The Pecan continues in plenty, one of which near the mouth of Little river was measured and found to be 10 feet in circumference, at the height of five feet from the ground.

"(p. 12) The timber [about 9.2 miles above Natchitoches] is White Gum, Cotton Wood, very large Pecan, Ash, Hickory, Mulberry, and Locust . . . (p. 13) The Cotton Wood tree grows to a great size in this neighborhood; one standing in a cornfield was found to be five feet in diameter and 141 and a half feet high . . . (p. 14) The timber continues the same as below, with Cane on one, or both banks all the way . . . The trees are so covered with vines and creeping plants, as to present an impermeable mass of vegetation, while the low banks of the river are edged with willows . . . (p. 16) After passing up the bayou, about five miles against the current, running at a rapid rate of three miles an hour, they entered a lake called by the Indians, Big Broth, from the vast quantity of Froth which collects in, and floats along it, during the time of high water.³⁹ On the margin of the lake there is a growth of Willows and low bushy Cypress, for about 80 yards, beyond which the land is of good quality, rises to a height of forty feet, and is cloathed with White and Black Oak, Hickory, and Dogwood. The left or west side of the lake is low, and covered with large Cypress trees and bushes for about two miles. This beautiful lake is said to extend seventy miles, in a northerly direction, and is about two miles wide, agreeably variegated.

(p. 22) "In addition to the trees noticed in ascending to Natchitoches, they here meet with the Sour Gum (*Nyssa integrifolia*,)⁴⁰ Lime Tree (*Tilia Americana*,) Locusts (*Robinia Pseudacacia*,)⁴¹ this was only seen

³⁸ *Arundo donax* L. is an Old World species, now somewhat introduced into the United States but surely not the abundant wild cane mentioned by Custis, which was certainly the native Giant Cane, *Arundinaria gigantea* (Walt.) Muhl.

³⁹ Big Broth Lake is called Lake Bistino by Custis in the plant lists, a corruption of Bistineau, which is the present name of the lake.

⁴⁰ *Nyssa integrifolia* Aiton is a synonym of *N. sylvatica* Marshall, which is common in the area in various forms.

⁴¹ Probably not *Robinia* but the Honey Locust, *Gleditsia triacanthos* L. or the Water Locust, *Gleditsia aquatica* Marsh.

on Bayou Badtka [now Bodeau], *Cephalantus Occidentalis*,⁴² or Button Wood, which is abundant all along the river, Haw (*Viburnum Prunifolium*,)⁴³ Red Cedar (*Juniperus Virginiana*,) the first makes its appearance about 20 miles below the Cooshutta village, Wild Cherry, (*Prunus Virginiana*,)⁴⁴ two kinds of plum, both of which are small, round, and red, the one ripens about the middle of June, the other in August; the latter is too sour to be eaten.⁴⁵ There are an abundance of grapes: the Fox Grape, the Wine, and a small blue one, which ripens about the first of June.⁴⁶ Oaks, (*Quercus rubra*,⁴⁷ *alba*, and *nigra*,) and the Hickory, (*Juglans Alba*,) are the most abundant, except on the margin of the river, where the Cotton tree and *Plantanus Occidentalis* abound.

“Cat Fish were taken at the camp near the village, of from 15 to 70 pounds weight, equal in taste and flavor to any caught within the U. States . . . (p. 43) Above the mouth of the Upper Little river, Red river is said to preserve nearly the same width for three or four hundred miles. The valley opens into a level, rich, and almost continued prairies, where range immense herds of buffaloe, upon which the Indians almost entirely subsist, moving their camps, as the animals migrate with the season, from north to south and back again. The Panis nation are possessed of fire arms, having smooth bored guns and ammunition, which they reserve for war, but never use them in hunting. They are the character of a peaceable and friendly people.

“The extensive prairies which are found in this rich and level country, appear to be owing to the custom which these nations of hunters have, of burning the grass at certain season. It destroys the bushes and underwood, and in some instances the timber, preventing the future growth where once the timber is destroyed. The small spots of wood with which these prairies are interspersed, are found in the poorest spots, and on the margins of the water courses, where the undergrowth is less luxuriant, or the water stops the progress of the flames. It is observed, that where these prairies are enclosed, or otherwise protected from fire, they soon become covered with bushes and timber trees, a circumstance which proves, that neither the nature of the soil, nor any other natural cause, gives rise to these extensive and rich pastures, with which Western America abounds.”

⁴² In mss. correctly *Cephalanthus*.

⁴³ *Viburnum prunifolium* L., the Black Haw, does not quite reach the Red River region, where its place is taken by the related species *V. rufidulum* Raf.

⁴⁴ *Prunus virginiana* L., the Common Chokecherry, does not quite reach the Red River Valley, and so this was doubtless the Black Cherry, *Prunus serotina* Ehrh.

⁴⁵ Presumably the plum ripening in June was the Chickasaw Plum, *Prunus angustifolia* Marshall or possibly the Wildgoose Plum, *P. munsoniana* Wight & Hedr., and the one ripening in August the Mexican Plum, *P. mexicana* S. Wats.

⁴⁶ The Fox Grape is *Vitis labrusca* L.; it is uncertain which species is intended by the Wine Grape, but presumably not the true European Wine Grape, *V. vinifera*; the small blue grape ripening about the first of June may have been the June Grape, *V. riparia* var. *praecox* Engelm., which is perhaps not definitely known from the region being explored but which may occur there.

⁴⁷ Probably not Red Oak, *Q. rubra*, but Black Oak (*Q. velutina* Lam.).

(p. 44)

"A LIST

of the trees and shrubs, observed to grow on the margin of Red River, or in its vicinity.

1. Cotton Tree, a species of *Populus*; grows on the borders of the river from its mouth to the Spanish Camp. [*Populus deltoides* Bartr.; see above p. 442.]⁴⁸
2. Pecan, (*Juglans Petiola.*) abundant as high as Natchitoches, after which it is very rare for 500 miles, when it is said to be again in plenty. [Correctly *petiolata* in mss.; see above p. 442; = *Carya illinoensis* (Wangenh.) K. Koch.]
3. Plane Tree, (*Platanus Occidentalis.*) plentiful on the borders of the river to the Spanish Camp.
4. Hagberry, (*Prunus padus.*) abundant. [Presumably a misidentification of *P. serotina* Ehrh.; see above p. 442.]
5. Persimmon, (*Dyosphyros Virginiana.*) every where to be met with. [As *Dyospyros* in mss.]
6. Honey Locusts, (*Gleditsia triacanthos* and *monosperma*) very abundant. [*Gleditsia monosperma* Walt. is a synonym of *G. aquatica* Marshall, the Water Locust.]
7. Oaks, (*Quercus, rubra, alba, phellos, nigra, and esculus.*) [See above pp. 442, 443; *Q. esculus* is probably a misidentification of *Q. michauxii* Nutt.]
8. Box Elder. [i.e. *Acer negundo* L.]
9. Sweet Gum, (*Liquidambar Styraciflua*) frequent.
10. Pines, (*Pinus Sylvestris, and Foeda.*) the *Foeda* is in great abundance, and of a very large size. [*P. sylvestris* is probably a misidentification of *P. echinata* Mill. (see above p. 443); "*Foeda*" is correctly *taeda* in the mss., the Loblolly Pine.]
11. Cypress, (*Cypressus disticha, and Thyoides.*) The *disticha* is met with as high as the party ascended the river, the other was only noticed below Natchitoches. [*Cypressus disticha*, the Bald Cypress, is now *Taxodium distichum* (L.) L. C. Rich.; *C. thyoides* is now correctly *Chamaecyparis thyoides* (L.) Britt., Sterns, & Poggenb., the Southern White Cedar. It was probably correctly identified, although this tree is apparently not known today in the Red River region, according to Dr. Clair A. Brown.]
12. *Celtis Occidentalis.*
13. Ash, (*Fraxinus Americana* and *excelsior*). [*F. excelsior* L., the European Ash, does not occur wild in the United States; the plant so identified was probably the Water Ash, *F. caroliniana* Mill.]
14. Sour Gum, (*Nyssa integrifolia*). [Now *N. sylvatica* Marshall; see above p. 445.]
15. Elm, *Ulmus Americana.*
16. Sassafras, (*Laurus Sassafras*) every where met with. [Now *Sassafras albidum* (Nutt.) Nees; see above p. 443.]
17. Hickory, (*Juglans alba*) very abundant. [Presumably *Carya tomentosa* Nutt.; see above p. 442.]
18. Maple, (*Acer Pennsylvanicum, and Saccharinum.*) [*A. pensylvanicum* was probably a misidentification of the Red Maple, *Acer rubrum* var. *drummondii* (Hook. & Arn.) Sargent; see above p. 443.]
19. Mulberry, *Morus Nigra.* [Since the Black Mulberry is not native in the United States, presumably the plant so identified was the Red Mulberry, *Morus rubra* L., which is widely distributed in Louisiana.]

⁴⁸ My identifications and notes are in square brackets. C.V.M.

20. *Sideroxylon mite*. [Probably *Bumelia lanuginosa* (Michx.) Pers. or *B. smallii* Clark; see above p. 443.]

21. Red Bud, *Cercis Siliquastrum*. [*C. siliquastrum* L. is the European Redbud; the plant observed was surely the American Redbud, *C. canadensis* L., which is common in Louisiana.]

22. Dogwood, *Cornus florida* and *Sericea*. [*C. sericea*, see above p. 443.]

23. Walnut, (*Juglans Nigra*) This tree becomes more abundant as you ascend the river, and high up it is found of a very large size.

24. Papaw, (*Anno Galbra*) every where abundant. [The cryptic "*Anno Galbra*" is a misinterpretation of the mss. by the compiler; the mss. "*Anno. glabra*" was an abbreviation of *Annona glabra* L., which however was a wild identification, for this species, the Pond Apple, is a tropical species native in southern Florida and the West Indies. The Papaw is, of course, *Annona triloba* L., now *Asimina triloba* (L.) Dunal.]

25. Chinquepin, (*Fagus pumila*) abundant all through the country as high as the first Little River, and probably much higher. [Now *Castanea pumila* Mill.; see above p. 444.]

26. *Hamamelis Virginica*. [The Witch Hazel.]

27. *Halesia Telrapetra*. [A misspelling by the compiler of *H. tetraptera* Ellis, now generally *H. carolina* L., the Carolina Silverbell; however, this species apparently does not occur in the Red River region, where its place is taken by *H. diptera* Ellis.]

28. Lime Tree, *Tilia Americana*.

29. Locust, (*Robinia Pseudacacia*.) [A misprint or abbreviation of *pseudacacia*.]

30. Red Cedar, (*Juniperus Virginiana*;) it becomes more abundant as you ascend above the Coashatta Village. In many places this is the principal tree found on the borders of the river.

31. *Magnolia Tripetala*. [The presence of this species, the rather distinctive Umbrella Tree, on the list is an indication that the party did reach into present-day Oklahoma, for it is known from southeastern Oklahoma but not from Louisiana, although it is possible that it may have occurred there in 1806 and now be extinct.]

32. Tooth Ache Tree, (*Zanthoxylon Clava Herculis*, and *fraxinifolia* of Marshall.) [The last-named is now *Z. americanum* Mill.; see above p. 444.]

33. Beech, (*Fagus Sylvatica*.) [*F. sylvatica* L. is the European Beech; the plant observed was surely the American Beech, *F. grandifolia* var. *caroliniana* Fern. & Rehd.]

34. Holly, (*Ilex Aquifolium*.) [Surely *I. opaca* Aiton; see above p. 444.]

35. Wild Cherry, (*Prunus Virginiana*.) [Identification a little doubtful; see above p. 446.]

36. *Prunus Lauro-cerassus*. [In mss. correctly *lauro-cerasus*.]

37. A tree growing on the banks of the bayous between the Coashalla Village and Natchitoches, and is probably new. It resembles in its size and manner of putting forth its leaves, the *Bignonia Catalpa*. The leaves are very large and three lobed; lobes entire, acute. Until more is known of it we will call it *Bignonia Triloba*. [*Bignonia triloba* Custis is one of the new species that have been overlooked and not indexed. The plant that is mentioned in comparison, *B. catalpa* L., is the Common Catalpa, now properly *Catalpa bignonioides* Walt. Evidently Custis' species is not really distinct but is only a form of *C. bignonioides* with three-lobed leaves; although I have not seen any specimens myself, there is good authority for the occurrence of such trilobed forms.]

38. *Cephalanthus Occidentalis*.

39. *Viburnum Prunifolium*. [Presumably not *V. prunifolium* L. but the related *V. rufidulum* Raf.; see above p. 446.]
40. *Crataegus Aria*. [See above p. 443.]
41. Spice Wood, (*Laurus Benzoin*) very abundant. [Now *Lindera benzoin* (L.) Blume.]
42. Candle Berry, (*Myrica cerifera*) in great abundance all through the country as high as the first Little River, and probably much higher.
43. *Prinos verticillatus*. [*P. verticillatus* L., the Winterberry, now generally *Ilex verticillatus* (L.) A. Gray; perhaps not definitely known from the Red River region, although it may occur there; some of the other species of *Ilex* are common there.]
44. Bois d'arc. This is probably a new genus; as it was not in blossom Mr. Custis could not determine whether it was so or not. It is said first to make its appearance about the Second or Upper Little River, and is very abundant in a creek called "Bois d'arc." The tree which the exploring party saw was within a mile of Natchitoches, and probably was a transplanted one. It was about 30 feet high; its trunk 7 or 8 feet in circumference, and from 6 to 7 feet to where it begins to ramify. Its general appearance that of an apple tree. The fruit about the size of large sour oranges, and of a greenish yellow colour. [Custis was right that this was a new genus, for the plant described is obviously the Osage Orange, one of the most outstanding endemic genera of the southern United States. The Osage Orange had been known previously in New Orleans, and was described in the unpublished list of Dunbar and Hunter (see p. 439), but no botanist assigned a name until Rafinesque called it *Ioxylon* in 1817, changed it to *Toxylon* in 1818 (a generic name later often accepted), and to *Joxylon* in 1819; but both the two last named can be considered orthographic errors. A year later, in 1818, Nuttall described the genus as *Maclura*, and because of his prestige over Rafinesque, Nuttall's name was generally accepted; it is now on the list of *nomina generica conservanda*, the correct name of the species at present being *Maclura pomifera* (Raf.) C. Schneider. Custis adds in the mss. letter: "The fruit I have preserved in whiskey in order to forward. — You will also receive some of the branches & leaves."]

(p. 47)

"A CATALOGUE

of vegetables seen on the banks of, and in the vicinity of Red River, with the time of their flowering.

"NOTE. Where no mention is made of the place where they are found, it is to be understood that they are confined to no particular situation.

1806

May 2nd. *Amorpha fruticosa*, in flower.

3rd. *Oxalis acetosella*, out of flower. [The Red River region is somewhat outside the range of the Common Wood Sorrel, *Oxalis acetosella* L.; since the plants were out of flower it is likely that some other species of *Oxalis* was mistaken for it.]

Aquilicia Sambucina, in flower. [*A. sambucina* L., now generally called *Leea sambucina* (L.) Willd., is an Asiatic species of the grape family, with bipinnate leaves and a bushy rather than vine-like habit. The only plant of the Red River region with such characters is *Ampelopsis arborea* (L.) Koehne.]

5th. *Atropa Physaloides*, in flower. [*A. physalodes* L., now generally called *Nicandra physalodes* (L.) Gaertn., is a native of South America, at present somewhat naturalized in the southern United States but rather unlikely to have been naturalized so early as 1806. Doubtless some native species of *Physalis* was mistaken for it.]

Clematis Cirrhosa, do. [*C. cirrhosa* L. is a species of southern Europe; mistaken for it was very likely one of the native Leather Flowers, possibly *Clematis glaucophylla* Small.]

Convolvulus Arvensis, do. [The presence of this European plant, which was doubtless correctly identified, shows that some weeds had already been introduced into this region by 1806, as is shown also by the presence of *Portulaca oleracea*, *Verbascum thapsus*, *Arctium*, *Plantago major*, and *Taraxacum officinale*; these were probably mostly near French settlements. Professor Ewan tells me that a Dr. Prat was receiving seeds from France as early as 1725, and these doubtless included their complement of unwanted weed seeds.]

Ranunculus bulbosa, out of flower. [In mss. correctly *Ranunculus*; the European Buttercup, *R. bulbosus* L., is now commonly introduced, but probably Custis mistook one of the native species for it.]

6th. *Rhus Toxicodendron*, in flower.

Mimosa Punctata, in flower. This plant is first seen a mile above the mouth of the river, and from thence to Natchitoches is found in great abundance. In many places it completely covers the banks from low to high water mark. Like other species of the same genus, it moves from the touch. [*M. punctata* L. is a synonym of the tropical American *Neptunia plena* (L.) Benth.; there is a native *Neptunia*, *N. lutea* (Leavenw.) Benth., with sensitive leaves, but the plant observed was almost surely the native *Mimosa strigillosa* Torr. & Gray, which is common on river banks in Louisiana.]

(p. 48)

May 7th. *Arum triphyllum* out of flower. [Now *Arisaema triphylla* (L.) Schott.]

Echinops Sphaerocephalus, in flower. [This is the common European Globe Thistle. No plant really similar in inflorescence grows in the United States, but some of the native species of *Cirsium* have leaves that are very similar, and these may have been mistaken for *Echinops*.]

Hypericum quadrangulare, in flower. [*H. quadrangulare* J. E. Smith is a European species. The species native in the Red River region that has the stems most conspicuously quadrangular is *H. drummondii* (Hook. & Grev.) Torr. & Gray.]

—— *kalmianum*, do. [*H. kalmianum* L. is a northern species, of the Great Lakes region; the plant so identified by Custis can not be guessed at, for there are several native species of *Hypericum* in the area.]

Orobis tuberosus, do. [*O. tuberosus* is a synonym of the European *Lathyrus montanus* Bernh.; the only native species likely to have been mistaken for it is *L. venosus* Muhl.]

- 9th. *Mimosa tenuifolia*, beginning to drop its flower. [In mss. correctly *tenuifolia*. However, *M. tenuifolia* L. is some tropical species of *Acacia*. I would guess that the native plant most likely to have been so misinterpreted would be the Sensitive Briar, *Schrankia nuttallii* (DC.) Standl.]
- Hydrocotyle Vulgaris*, in flower. [*H. vulgaris* L. is the European Pennywort; the very similar American plant with peltate leaves that would have been so identified is *Hydrocotyle umbellata* L.]
- Malva Caroliniana*, in seed. [Now *Modiola caroliniana* (L.) G. Don.]
- Alcea rosea*, in flower. [Now *Althaea rosea* (L.) Cav.; it would seem that Custis would know this, the common Hollyhock, and so it is likely that this was a plant cultivated by one of the settlers.]
- Rudbeckia hirta*, in flower.
- Erythrina herbacea*, seen at Rapide only and in flower.
- Spigelia Marylandica*, in flower.
- Indigofera hirsuta*, in flower. [In mss. correctly *hirsuta*; *I. hirsuta* L. is an Old World species. The only species of *Indigofera* in the Red River region is *I. leptosepala* Nutt., with which the diagnosis of *I. hirsuta* in Linnaeus' *Systema*, which Custis was undoubtedly using for his identification, does not agree at all I think it likely that this was a wild determination of the native plant *Tephrosia virginiana* (L.) Pers., from the mention of the hirsute character of the spikes and the lanate pods.]
- Symphitum officinale*, *Solanum paniculatum* in flower. [*Symphitum officinale* L., the European Comfrey, must have been a misidentification of some native species of Boraginaceae (*Onosmodium*?); in mss. correctly *paniculatum*, but *Solanum paniculatum* L. is a Brazilian species; so identified must have been one of the native prickly solanums, almost surely the Horse Nettle, *S. carolinense* L.]
- Aristolochia serpentaria*.
- Rosa eglantheria*. [*R. eglantheria* L., the English Sweet Briar or Eglantine, must have been a misidentification of some native wild rose, unless it was a cultivated plant.]
- Rubus fruticosus* and *Caesius*, fruit ripe. [These two species of *Rubus* are European, evident misidentifications of native American species of blackberries and dewberries respectively.]
- 11th. *Phytolacca decandra*, in flower. [Now properly *P. americana* L.]
- Sambucus nigra*, in flower. [*S. nigra*, the Black Elder, of Europe, was surely a misidentification for the American Elder, *S. canadensis* L.]
- Oenothera longiflora*, in flower. This is a Solar plant. It folds up its flower as soon as the sun rises, and expands at sun-set. [*O. longiflora* L., a South American species, must have been a misidentification of a native species of *Oenothera*.]
- Portulaca oleracea* in seed.
- Oxalis purpurea*, in seed. [*O. purpurea* L., a South African species is, of course, a misidentification, perhaps of the Violet Wood Sorrel, *O. violacea* L. In fact, Custis' "*purpurea*" was probably merely a slip of the pen or memory for "*violacea*."]]

- Passiflora*, every where in the greatest abundance, and in flower. [This would be *P. incarnata* L.]
- Verbascum thapsus*, in flower. [Introduced weed, surely identified correctly.]
- Rhus copallinum*, and *Cotinus*, in flower. [i.e. *Rhus copallina* L. and *Rhus cotinus* L.; the American relative of the latter is *Cotinus obovatus* Raf.]
- Physalis pubescens*, in flower.
- Viola palmata*, out of flower.
- Mercurialis annica*, about the first raft, in flower. [In mss. correctly *annua*; *M. annua* L. is European, but weedy and possibly already introduced into Louisiana in the time of Custis.]
- Sida Occidentalis*, in flower. [*S. occidentalis* L. is a tropical American plant; the plant so named by Custis is doubtful, perhaps not a *Sida* at all.]
- Rhus coriaria*, and *radicans*. [*R. coriaria* L. is European; the plant so named may have been the Smooth Sumac, *R. glabra* L.]
- Smilax china*, and *Sarsaparilla*. [*S. china* L. is Asiatic, and so the plant so named was probably *S. tamnoides* L., the China-root; *S. sarsaparilla* L. is tropical American, and the plant so named by Custis, with quadrangular stems, was surely *S. bona-nox* L., which was probably eliminated from consideration by Custis because it was described by Linnaeus as having aculeate leaves, but these are not always or even usually aculeate in this species.]
- 8th. *Rudbeckia purpurea*, in flower. [In mss. correctly *purpurea*. Now *Echinacea purpurea* (L.) Moench.]
- Podophyllum peltatum*, every where abundant.
- Nymphaea nelumbo*, and *alba*. These cover the lakes. The leaves of the *Nelumbo* are of a very large size. Some of them measure nine feet in circumference. In flower. [*N. nelumbo* L. is the Old World Lotus; the plant intended, the American Lotus, is *Nelumbo lutea* (Willd.) Pers.; *N. alba* L. is the European White Waterlily; the related American species is *N. odorata* Aiton.]
- 10th. *Jussicua repens*, in flower. [In mss. more correctly *Jussieuia*.]
- Aretium Lappa*. [In mss. correctly *Arctium*. All the Burdocks are introduced weeds; the plant seen may have been correctly named as the Great Burdock, *A. lappa* L., but more likely it was the Common Burdock, *A. minus* (Hill) Bernh., which was not distinguished in Linnaeus' *Systema*. According to Clair Brown, burdock is not at present found in Louisiana or, at least, not commonly.]
- Solanum Virginianum*, on Lake Bistino. [In spite of its misleading specific name, *S. virginianum* L. is an African species; the plant of the Red River region more or less agreeing with the diagnosis of *S. virginianum* is *Solanum carolinense*.]
- Hypericum proliferum*, in flower. [Intended was *H. prolificum* L.]
- Tradiscantia Virginica*, everywhere abundant, and nearly out of flower. [In mss. correctly *Tradescantia*.]
- Allium odorum*, in flower. [*A. odorum* L. is an Asiatic species; this may have been the cultivated garlic, *A. sativum* L., or the

weedy Field Garlic, *A. vineale* L., or most likely the native Wild Garlic *A. canadense* L.]

- 16th. *Leontodon taraxacum*, in flower. [Now *Taraxacum officinale* Weber; the dandelion must be one of the first weeds to be introduced into a new temperate region, along with *Plantago major*.]

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Physalis angulata, in flower.

- 17th. *Datura Stramonium*, in flower. This plant is very abundant at Natchitoches. [Where it may have been introduced; this was a favorite plant of the American Indians for religious(?) ceremonies.]

Marubium Vulgare, and *Mentha Lativa*. [In mss. correctly spelled *Marrubium* and *sativa*; these European plants, horehound and mint, which were collected by Custis in Natchitoches, were undoubtedly cultivated by the French settlers there. The horehound may very well have come in first as a weed.]

- 19th. *Cactus Opuntia*, very plentiful at Natchitoches, and in flower. [Surely the present *Opuntia humifusa* Raf.]

Tillandsia usneoides, found on almost all the trees in this country; in flower.

- 27th. *Spigelia Anthelmia*, near Natchitoches, in flower. [*S. anthelmia* L. is known in the United States only from Florida, and therefore this must be a wrong determination. Presumably it was *Spigelia marilandica*.]

Sonicera Sempervivum, in flower. [In mss. correctly *Lonicera sempervirens*.]

Podophyllum Peltatum, in flower.

- June 4th. *Bignonia radicans*, in flower. [Correct name still uncertain, but mostly called now *Campsis radicans* (L.) Seem., the Trumpet Vine.]

- 6th. *Hibiscus fraternus*, in abundance on the borders of the river. [*H. fraternus* L. is South American; presumably the plant so identified was the Rose Mallow, *H. militaris* Cav.]

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Cassia chamaescrista, begins to put forth its flowers on the 5th June. This plant was first seen at Campte, and becomes more abundant as you ascend the river. It abounds in the prairies, and even throughout the woods, extending quite to the river's side. In Virginia this plant is thought very advantageous to poor lands, and known by the name of Magotty Bay bean, because first discovered in that place. Dr. James Greenway of Virginia, has given an account of it in the philosophical transactions. There is also a paper on its properties as a manure in one of the numbers of the Medical Repository. [An early reference to the value of legumes as a cover crop.]

Myrica cerifera, in abundance on Lake Bistino.

- 13th. *Polygonum Capathifolium*, in flower. [In mss. correctly *lapathifolium*.]

Erythrina herbacea, which is mentioned as having been only met with at Rapide, is very abundant on the prairies.

Fragaria vesca, abundant on the prairies. [The strawberry was

- surely *F. virginiana* Duchesne rather than the European *F. vesca* L.]
- 18th. *Passiflora minima*, abundant and in flower. [*P. minima* L. is tropical; the species intended was surely *P. lutea* var. *glabriflora* Fernald.]
- Silphium laciniatum*, in flower in the prairies.
- Saturica Capitata*. [In mss. correctly *Satureia*. However, *S. capitata* L., i.e. *Thymus capitatus* (L.) Hoffm. & Link, is European; several American mints might have been so misidentified.]
- Asclepias lactifera*. [An exotic species; the plant intended is doubtful; it could have been any of several species of *Asclepias*, *Asclepiodora*, or *Acerates*.]
- *filiformis*. [*A. filiformis* L. is an exotic species; the only native species of Milkweed that could be said to have filiform leaves is *A. verticillata* L.]
- *incarnata*.
- Ascyrum Hypericoides*, in flower.
- Achillea Santolina*. [*A. santolina* L. is an Old World plant, not to be expected either in cultivation or naturalized at this early date; the plant intended is doubtful.]
- Plantago major*. [The "White Man's Footsteps!"]
- Periploca Secamore*. [In mss. correctly *secamone*; *Periploca secamone* L. is an Old World species; the plant intended may have been a species of *Gonolobus*.]

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- Coreopsis lanceolata*, in flower.
- Crotalaria latifolia*. [In mss. correctly *Crotalaria*. However, *C. latifolia* L. is tropical; the plant intended was possibly *C. incana* L.]
- Astragalus Carolinianus*. [Perhaps *A. canadensis* L.]
- Ecconymus Americanus*, on the banks of the river. [In mss. correctly *Euonymus*.]
- 16th. *Drosera cuneifolia*, in flower. [*D. cuneifolia* Thunb. is South African; the plant observed was probably *D. brevifolia* Pursh, according to Dr. C. E. Wood, Jr.]
- 22nd. *Tricosanthes cucumerina*, near the upper end of the great raft. In flower. [*Trichosanthes cucumerinus* L. is an Old World species. Professor Ewan suggests that the plant intended was the Balsam Apple, *Momordica charantia* L., which was known in cultivation in the Ohio Valley in the 1750's. It seems likely though that Custis would have known *Momordica*, and so the plant seen may have been the native Bur Cucumber, *Sicyos angulatus* L.]
- 22nd. *Polygonum scandens*, in flower.
- Palmetto (. . . .). The root is used by the natives in the cure of Lues Venerea. They use it in the form of decoction. [The palmetto of this area is *Sabal minor* (Jacq.) Pers.]
- Arbutus Uva Ursi*, on Bayou Badtka. [Now *Arctostaphylos uva-ursi* (L.) Spreng., the Bearberry; the inclusion of this species is perplexing, for it is rather distinctive and not easily confused with other plants, yet it is not today known from the Red River

region. Dr. Clair Brown conjectures that the plant in question may have been the tree huckleberry, *Vaccinium arboreum* Marsh., which is common in this region.]

Cassia marylandica, on Bayou Badtka.

Sagittaria lancifolia, in a lake near the upper end of the raft. [*S. lancifolia* of authors not L. is *S. falcata* Pursh.]

Hedera quinquefolia. [Now *Parthenocissus quinquefolia* (L.) Planch., the Virginia Creeper.]

Cammelina Vaginata, in flower, and everywhere abundant. [In mss. correctly *Commelina*; *C. vaginata* L. is *Aneilema vaginatum* (L.) R. Brown, an Old World plant. Presumably the plant intended was *C. virginica* L., the Common Dayflower.]

24th. *Morea vegeta*, in flower. [*Morea* (properly *Moraea*) *vegeta* L. is a South African plant; intended was some native member of the Iridaceae, perhaps *Nemastylis acuta* (Bartr.) Herb.]

Sison ammi, near the upper end of the raft. [*S. ammi* L. perhaps referred to *Apium leptophyllum* (Pers.) F. Muell.]

Helianthus strumosus, in flower. [Custis' identifications in a large and difficult genus like *Helianthus* can not be taken to mean much.]

26th. *Aristolochia pistolochia*, in flower. [*A. pistolochia* L. is European; the plant so identified here is doubtful.]

Ranunculus hederaceus, in little prairie. [*R. hederaceus* L. does not occur in "prairies" in the Red River region, and so it is likely that another buttercup was mistaken for it.]

Arum pentaphyllum near the Coashatta village. [*A. pentaphyllum* L., now *Arisaema pentaphylla* (L.) Schott, is an Old World plant; it would seem that the only native species that could have been so identified is *A. quinatum* (Nutt.) Schott.]

Delphinium Staphisagria, do. [*D. staphisagria* L. is European; the local species intended was doubtless *D. carolinianum* Walt.]

Jatropha Urens, (Stinging Cassava) in flower on the 12th — very abundant. [*J. urens* L. is tropical American; the local plant intended was surely *Cnidoscolus texanus* (Muell. Arg.) Small, the Spurge Nettle.]

Ilex cassine, near the Coashatta Village. [Perhaps Yaupon, *Ilex vomitoria* Ait.]

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Polypodium, every where in plenty. [*Polypodium* in the time of Custis included, of course, not only the true Polypodiums but also all the species now referred to *Dryopteris*, *Thelypteris*, *Athyrium*, *Polystichum*, and some other genera.]

Fungi, abundant.

27th. *Carduus Verginicus*, in flower. [In mss. *virginicus*, but intended was *virginianum*, now *Cirsium virginianum* (L.) Michx.; however, this species as currently delimited does not occur in the Red River region, where its place is taken by the Yellow Thistle, *C. horridulum* Michx.]

No. 1, 2, & 4, at the Coashatta.⁴⁹

⁴⁹ These numbers refer to plants actually collected, presumably those that Custis was unable to identify with any in his books. (See my note above, p. 440, regarding

No. 3. In prairies. No. 5, every where in plenty. The Coashatta Indians make a decoction with this which they drink at their *green corn dance*, previous to taking the black drink. It pukes them violently immediately after drinking it. Whether it is the emetic property of the plant, or the great quantity of warm water which they drink that causes it to operate so soon is doubtful.⁵⁰

No. 6. Very plentiful, particularly on the declivities of the hills.

No. 7. The poor people are said to use the root as a substitute for soap. The leaves are what the people of Campeachy make their cordage of.

No. 8. Abundant in the prairies. The root is a Caddo remedy for the convulsions of children. If at all useful it is most probably in cases arising from worms, by its anthelmintic properties.

No. 9. Is at the Coashatta.

No. 10. A species of *Mimosa* abundant on the prairies.

No. 11. Abundant in the prairies.

No. 12. A climber.

No. 13. On the banks of the river. The leaves feathered with an odd one.

No. 14. Abundant in prairies.

No. 15. At the Coashatta Village.

No. 16. On lake Badtka.

No. 17, 18. In the prairies.

No. 19. Polypodium every where abundant.

(p. 53)

No. 20. One of the most abundant vegetables in the country, found in every situation.

No. 21. Plentiful in the prairies.

No. 22. A small shrub growing near the head of the great raft.

No. 23. Found in the prairies.

No. 24. Supposed to be a species of *Lonicera*. It grows near the Coashatta Village.

No. 25. Very abundant.

No. 26. At the Coashatta Village.

Note. The above numbers refer to specimens of the plants.

July 11th. *Digitalis flava*, in flower, found above the Coashatta village. [There is a *D. flava* Georgi (1800) from Russia, but Custis hardly would have heard of it. Perhaps the "*flava*" was a slip for *D. lutea* L., or alternatively "*Digitalis*" was a slip for *Gerardia flava* L. The plant intended was surely one of the native False Foxgloves, *Gerardia flava*, *G. virginica*, or *G. grandiflora*.]

15th. *Spomaea Solifolia*, in flower. [In mss. correctly *Ipomoea*. Since *I. solanifolia* L. is a tropical species, the plant intended was one of our native Morning Glories, perhaps *I. pandurata* (L.) G. F. W. Meyer.]

17th. *Jussiaena erecta*, on the banks of the river, in flower. [In mss. *Jussiaena*, but more properly it should be *Jussiaea*, although the

the disposition of these specimens.) It is perhaps fortunate for the stability of nomenclature that Custis did not assign any names to them.

⁵⁰No. 5 is doubtless *Ilex vomitoria* Ait., which was used as an emetic, as the specific name implies.

matter is perhaps debatable, for Linnaeus used both spellings. Since *J. erecta* L. is a tropical American species, the plant intended was one of the native species, such as *J. decurrens* (Walt.) DC.]

Portulaca oleracea, abundant on all the sand beaches.

- 19th. *Hibiscus hirtus*. [This, *H. hirtus* L., an Old World plant, was surely a misidentification; one could guess that the plant intended was *H. lasiocarpus* Cav.]

Typha angustifolia.

Polygonum Pennsylvanicum.

These covered a prairie near the old Caddo village. [This note is on the three last-mentioned species, which are bracketed.]

- 24th. *Helianthus multiflorus*, above the second little river. [This might have been correctly named, although it is likely that some allied species was observed, for *H. multiflorus* L. is now considered a synonym of *H. decapetalus* L., which apparently does not quite reach the Red River region.]

Origanum Vulgare, in flower. [It is possible that this was a cultivated plant, brought along by the earliest French settlers as a condiment.]

Datisca hirta, at the old Caddo village. [The plant so identified must remain entirely unknown; the original *D. hirta* L. is considered to be a teratological state of *Rhus typhina* L.]

- 26th. A species of *Hibiscus*, found above the Upper Little River, is probably new. Its stem is erect and smooth; leaves obliquely egg-lanced, sawed; flowers axillary, peduncles as if jointed, larger above the apparent joint; exterior calyx from 12 to 15 awled rays; in flower. [This description could apply to *H. lasiocarpus* Cav.]

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- Aug. 2nd. *Clitoria ternatea*, in flower. [Probably this was the native *C. mariana* L., rather than the tropical *C. ternatea* L.]

Polygala Vulgaris. [One of the numerous native species of *Polygala* was surely misidentified as the European *P. vulgaris* L.]

- 8th. *Lobelia Cardinalis*, in flower.

——— *Syphililica*, in flower. [In mss. correctly *syphilitica*.]

- 9th. *Agave Virginica*, in flower. [In mss. correctly *Agave*.]

Sagittaria Sagittifolia, abundant on all the bayous. [Presumably *S. latifolia* Willd., which used to be considered only a variety of the European *S. sagittifolia* L.]

Elephantopus scaber, every where abundant. [Probably the native *E. carolinianus* Willd. was the plant observed, rather than the tropical *E. scaber* L.]

Bignonia sempervirens. [Now *Gelsemium sempervirens* (L.) Aiton, the Yellow Jessamine.]

——— *Unguis*. [The plant intended was surely *B. capreolata* L., the Cross Vine, rather than the tropical *B. unguis* L.]

Cassia Chamaechrista, mentioned before, was found to overspread the whole country as they ascended, continuing to blossom from the 5th June until September. [See above, p. 453.]

- 25th. *Cassia occidentalis*. [This species is now naturalized in the Red

River region, and it may have been already introduced in 1806.]

Cassia Marylandica.

These are found in the greatest abundance above Natchitoches. [This note applies to the two species last mentioned, which are bracketed.]

Cassia Tora, also met with. This plant infests the whole country about Fort Adams and Natchez. [From the use of the word "infests," it would appear that this plant was considered a weed.]

28th. *Prenanthes alba*, in flower. [This was probably a misidentification of some related species, for *P. alba* L. apparently does not grow in Louisiana today.]

Chenopodium anthelminticum, abundant in the vicinity of Natchitoches. [An introduced weed, doubtless correctly named.]

Sept. 1st. *Solidago altissima*, in flower

Tillandsia usneoides, seen as high as 50 miles above the first Little River.

Borassus flabelliformis, in plenty." [Very likely the native Dwarf Palmetto, *Sabal minor* (Jacq.) Pers. was misidentified as the Old World palm *Borassus flabelliformis* L.]

"The description found on a sand beach below the Upper Little river.

Class Didynamia. Order Angiospermia.

"CALYX. Perianth double; the exterior two leaved, leaflets lance awled nearly the length of (p. 55) the tube of the corol; the interior one leaved five parted, divisions sub-equal, the length of the exterior perianth.

"COROL. One petal'd, grinning; tube rather longer than calyx, contracted above the germ; borders two liped; upper lip two cleft, obtusish, reflected; under lip three cleft, more deeply divided, more acute, with a groove in the middle of each division as if they had been doubled length-wise, reflected.

"STAMINA. Fil. four, awled, of which the two inferior are longer, shorter than the style, inserted into the bottom of the tube. Anthers roundish, pendulous.

"PIST. Germ. oblong; style thread form extended along the upper part of the corol to the division of the upper lip. Stigma cleft forming when expanded a flat orbicular surface with a small oblong incision in the middle.

"PER. Capsule oblong two-valved.

"SEEDS. Very numerous, small.

"Its stem is erect, shooting up about seven inches above the ground, entirely beset with flowers, furnished with Bractes; destitute of leaves.

"This plant is most probably a new genus, if so and there is not already a *Bartonia*, M. Custis calls it '*Bartonia Bracteata*.' There were two of these growing near each other, and the only ones of the kind that were seen." [*Bartonia* was intended to honor Custis' teacher, Benjamin Smith Barton. It is possible that because of the doubt expressed by the word "probably" that this new genus *Bartonia* should be considered as a *nomen provisorium*, and thus invalidly published, although many other authors have expressed similar doubts regarding the ultimate disposition of some of their novelties. In any case, Custis' fears that there might already be a *Bartonia* were well founded, for Muhlenberg had already proposed a *Bartonia* in 1801 for a peculiar genus of Gentianaceae. Furthermore,

from the good and complete description of *Custis* there is no doubt that his plant is none other than the Broom-rape, *Orobanche* L. It was a new species in 1806 but the specific epithet *bracteata* can not now be transferred to *Orobanche* because there is an *Orobanche bracteata* Viviani (1830). The plant of *Custis* is evidently identical with the later described *Orobanche ludoviciana* Nutt. (1818).]

(p. 56) List of Animals [including the description of a new species of *Mus*, without a specific name, and on p. 57 a new species of squirrel, *Sciurus ludovicianus* *Custis*, which had already been validly described in *Phila. Med. & Physic. Jour.* 2(2): 47. Sept. 26, 1806. The epithet *ludovicianus* has been picked up and accepted by mammalogists as a valid subspecies of *Sciurus niger*.]

(p. 58) List of Birds.

(p. 60) List of Amphibians [including a brief description of a new species *Syren Quadrupeda*.]

(p. 61) List of Fishes and List of Insects.

(p. 62, 63) List of Minerals.

Finally, two folded tables of meteorological data.

When I first saw this little book of Freeman and *Custis* I feared that it might be filled with binomials that would upset current nomenclature, but such has not proved to be true. Many of the plants seen by *Custis* were actually new species, but it is evident that *Custis* felt a reluctance to describe them, understandably, since the reference material he had with him was so inadequate. The genus that *Custis* thought new and which really was new was the Osage Orange, but *Custis* did not assign a name, because he saw only the fruits, and according to the Linnaean system then in use flowers were necessary for a description. The only new names actually proposed are the following, which should be indexed, even though all are synonyms:

Juglans petiolata *Custis*, *Phila. Med. & Physic. Jour.* 2(2): 45, Sept. 26, 1806; Freeman & *Custis*, *Account Red River* 6. 1807 [= *Carya illinoensis* (Wangenh.) K. Koch].

Bignonia triloba *Custis*, in Freeman & *Custis*, *Account Red River* 46. 1807 [= *Catalpa bignonioides* Walt. forma, probably].

Bartonia *Custis*, in Freeman & *Custis*, *Account Red River* 55. 1807, non Muhl. 1801 [= *Orobanche* L. 1753].

Bartonia bracteata *Custis*, in Freeman & *Custis*, *Account Red River* 55. 1807 [non *Orobanche bracteata* Viv., 1830] [= *Orobanche ludoviciana* Nutt. 1818].

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